REMARKS

Applicants have received and reviewed the Office Action dated December 17, 2002. By way of response, Applicants have cancelled claim 25 without prejudice, amended claims 1, 26, and 27, and added claims 28 - 30. Claims 1-11, 18-20, 22-24 and 26-30 are pending. No new matter is introduced. Applicants submit that the amended and newly presented claims are supported by the specification.

The amendment to claim 1 adding the limitation of human or rat is supported by the specification at least at page 6, lines 1-3. New claim 28, reciting neuronal precursor cells, is supported by the specification at least in the paragraph beginning at page 7, line 24. New claim 29, reciting neuroepithelial precursor cells, is supported by the specification at least in the paragraph beginning at page 16, line 30. New claim 30 is a combination of the limitations of claims 18 and 20.

The Applicants thank the Examiner for indicating that claims 18, 19, and 24 are allowed. The Applicants further thank the Examiner for acknowledging that the specification enables a method for treating Parkinson's disease. The Applicants note that new claim 30 combines allowed claim 18 with a method for treating Parkinson's disease and therefore believe it is also allowable.

For the reasons given below, Applicants respectfully submit the amended and newly presented claims are in condition for allowance, and notification to that effect is earnestly solicited.

35 U.S.C. § 112, ¶ 1

The Rejection of Claims 1-11 and 25

The Examiner has rejected claims 1-11 and 25 under 35 U.S.C. § 112, first paragraph, as containing subject matter not enabled by the specification. Although this rejection has not been raised for the newly presented claims, it is discussed insofar as it might be applied. Applicants respectfully traverse this rejection.

Though not conceding the correctness of the Examiner's position, in the interest of advancing prosecution, claim 1 has been amended to recite the term "human or rat." As the Examiner has acknowledged that for rats and humans one of skill in the art would not have to

determine de novo which cells of the fetal CNS are precursor cells, the Applicants believe that the enablement rejection is moot. To the extent that this rejection still applies, the following comments are provided.

The office action states that Applicants have not provided any objective support as to what one of skill in the art would know about precursor cells. In response, the Applicants direct the Examiner's attention to Dambly-Chaudiere et al., 1998, *Int. J. Dev. Biol.*, 42:269-273. In this reference the term "precursor cell" is used and it demonstrates that one of skill in the art knows what that term refers to. See, for example, page 270. Other objective support also exists to prove what one of skill in the art knows about precursor cells. See Skeath et al., 1996, *Curr. Biol.*, 6:1146-1152; Keller et al., USPN 5,874,301 at column 5, line 55. For example, Keller states that a precursor cell can be any cell in a cell differentiation pathway that is capable of differentiating into a more mature cell. Courtesy copies of Dambly-Chaudiere, Skeath, and Keller are attached hereto.

The office action further states that there is no definition in terms of biochemical or molecular features that would provide guidance in other species for obtaining the appropriate precursor cell for proliferation and differentiation. In response, the Examiner's attention is drawn to Example 1 of the specification beginning at page 16, line 12. In Example 1, a process is disclosed that significantly includes treatment with bFGF (page 16, line 30). It is further disclosed that this step leads to a near pure population of precursors over time because differentiated cells die at this step (page 17, line 34). The bFGF treated cells are then tested for the nestin intermediate filament, disclosed to be a marker for immature neuroepithelial precursors (page 17, line 2). Necessarily, obtaining cells through this process relates to biochemical or molecular features of the desired precursor cells. Thus, through treatment with bFGF and testing for the presence of the nestin intermediate filament, one of skill in the art is fully enabled to obtain precursor cells for any organism in accordance with the invention.

The Examiner further objects to the term "sensitive time." Though not conceding the correctness of the Examiner's position, in the interest of advancing prosecution claim 25 has been canceled; therefore the claims no longer recite this limitation. The Applicants believe that eliminating this term from the claims should eliminate all enablement issues regarding it. Although the inventors disclose that precursors obtained after this time produce much lower

amounts of dopaminergic neurons in vitro, because this term is no longer recited in the claims it is no longer relevant for purposes of enablement.

In summary, Applicants respectfully assert that for the above reasons, the pending and newly presented claims are enabled by the specification as required by 35 U.S.C. § 112, first paragraph and withdrawal of the rejection is earnestly solicited.

The Rejection of Claims 20 and 22-23

The Examiner has rejected claims 20 and 22-23 under 35 U.S.C. § 112, first paragraph, as containing subject matter not enabled by the specification. Applicants traverse this rejection.

The Examiner has maintained the rejection because claims 20 and 22-23 are dependent on the method of claim 1. In view of the arguments presented above regarding the enablement of claim 1, the Applicants believe that claims 20 and 22-23 are fully enabled and respectfully request that this rejection be withdrawn.

35 U.S.C. § 112, ¶ 2

The Examiner has rejected claims 25-27 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants traverse this rejection.

Though not conceding the correctness of the Examiner's position, in the interest of advancing prosecution, the claims have been amended to no longer recite the term "sensitive time" thereby rendering the rejection moot. The applicants respectfully request that this rejection be withdrawn.

CONCLUSION

In conclusion, each of claims 1-11, 18-20, 22-24 and 26-30 are in condition for allowance. The Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below, if the Examiner believes that doing so will expedite the prosecution of this patent application.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

Dated: March 17, 2003

By: Mark T. Skoog

Mark T. Skoog
Reg. No. 40,178

Version with Markings to Show Changes Made:

Claims 1, 26, and 27 were amended as follows.

1. (AMENDED 3 TIMES) A method of generating a cell culture comprising dopaminergic neuron cells, said method comprising the sequential steps of:

   a. providing precursor cells comprising human or rat fetal central nervous system cells

   b. [a.] proliferating precursor cells, said step of proliferating comprising:

      i. incubating a suspension of said precursor cells in a proliferating medium which includes basic fibroblast growth factor (bFGF) to form proliferated precursor cells; and subsequently

   c. [b.] differentiating said precursor cells, said step of differentiating comprising:

      i. incubating said precursor cells in an incubation vessel which contains differentiation medium in a manner effective to form a reaggregation of differentiated dopaminergic neuron cells that is not adhered to any surface of the incubation vessel, wherein the differentiation medium includes ascorbic acid. [;
      wherein said precursor cells comprise fetal central nervous system cells.]

26. (AMENDED) The method of claim 1 [25], wherein the precursor cells comprise human fetal cells obtained between about embryonic week 5 and about embryonic week 8.

27. (AMENDED) The method of claim 1 [25], wherein the precursor cells further comprise rat fetal cells obtained between about embryonic day 10 and about embryonic day 12.

Claims 28-30 are new.